The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims: Please amend the claims as follows

We claim:

Claim 1. (Currently Amended) A method for the characterization of an ~~HDAC~~ histone deacetylase (HDAC) inhibitor or a potential HDAC inhibitor comprising

determining in a sample the amount of a molecular marker which is HDAC protein,

wherein the sample is derived from cells which have been treated with said HDAC inhibitor or potential HDAC inhibitor.

Claim 2. (Currently Amended) A method according to claim 1 wherein the molecular marker is ~~selected from the group consisting of HDAC-2 RNA,~~ HDAC-2 protein~~, Ubc8 RNA, UBC8 protein, RLIM RNA, RLIM protein, TRAIL RNA and TRAIL protein~~.

Claim 3. (Currently Amended) A method according to claim 1 wherein the sample is derived from a tissue affected by a disorder.

Claim 4. (Currently Amended) A method according to claim 3 wherein the disorder is ~~selected from but not restricted to the group consisting of~~ skin cancer, melanoma, estrogen receptor-dependent and independent breast cancer, ovarian cancer, prostate cancer, renal cancer, colon and colorectal cancer, pancreatic cancer, head and neck cancer, small cell and non-small cell lung carcinoma, leukemias and other types of blood cell cancer ~~and~~ or an endocrine disease based on aberrant recruitment of histone deacetylase ~~such as thyroid resistance syndrome~~.

Claim 5. (Withdrawn) A method according to claim 1 wherein the molecular marker is a ribonucleic acid and the amount of the molecular marker is determined by RT-PCR.

Claim 6. (Previously Presented) A method according to claim 1 wherein the molecular marker is a protein and the amount of the molecular marker is determined by use of an antibody directed against the molecular marker.

Claim 7. (Previously Presented) A method according to claim 6 wherein the amount of molecular marker is determined by Western Blotting, ELISA, immunohistochemistry and/or flow cytometry.

Claim 8. (Previously Presented) A method according to claim 1 further comprising the step of selecting the inhibitor if it has the activity of modulating the expression of the molecular marker.

Claim 9. (Previously Presented) A method according to claim 1 further comprising the step of determining in a reference sample the amount of said molecular marker wherein the reference sample is derived from cells which have not been treated with said HDAC inhibitor or potential HDAC inhibitor.

Claim 10. (Currently Amended) ~~The use of a means~~ A method for ~~determining the amount of a molecular marker for~~ profiling ~~of HDAC~~ histone deacetylase (HDAC) inhibitors or potential HDAC inhibitors, comprising

contacting a cell with an HDAC inhibitor or potential HDAC inhibitor and

determining the amount of a molecular marker which is HDAC protein in the presence and absence of said inhibitor.

Claim 11. (Currently Amended) ~~The use of a means~~ A method for ~~determining the amount of a molecular marker for~~ diagnosing a disease associated with aberrant histone deacetylase (HDAC) activity, comprising

determining the amount of a molecular marker which is HDAC protein in a sample obtained from a subject suffering from said disease and

comparing said amount of said molecular marker with a reference sample.

Claim 12. (Currently Amended) ~~The use of a means~~ A method for determining the ~~amount of a molecular marker~~ the prognosis/outcome of ~~for determining whether~~ a treatment of a disorder associated with aberrant HDAC activity using an HDAC inhibitor, comprising

determining the amount of a molecular marker which is HDAC protein in a sample obtained from a subject suffering from said disorder with or without treatment with said HDAC inhibitor ~~with an HDAC inhibitor is to be started/continued or not~~.

Claim 13. (Currently Amended) ~~The use of a means~~ A method for determining ~~amount of a molecular marker~~ the prognosis/outcome of ~~for determining whether~~ a treatment of a disorder associated with aberrant HDAC activity employing a therapy that targets a molecular marker which is HDAC protein, comprising

determining the amount of said molecular marker in a sample obtained from a subject suffering from said disorder with or without said therapy ~~with a therapy that targets a molecular marker is to be started/continued or not~~.

Claim 14. (Currently Amended) The ~~use~~ method according to claim 10 ~~wherein the means for determining the amount of a molecular marker is~~ comprising employing an antibody directed against ~~a protein selected from the group consisting of~~ HDAC-2 protein~~, UBC8 protein, RLIM protein and TRAIL protein~~.

Claim 15. (Withdrawn, Currently Amended) The ~~use~~ method according to claim 10 ~~wherein the means for determining the amount of a molecular marker is~~ comprising employing an oligonucleotide which is capable of hybridizing to ~~a polynucleotide selected from the group consisting of RLIM mRNA, RLIM cDNA, Ubc8 mRNA, Ubc8 cDNA, TRAIL mRNA, TRAIL cDNA, HDAC-2 mRNA,~~ HDAC-2 cDNA ~~and complements~~ or a complement thereof.

Claim 16. (Withdrawn, Currently Amended) The ~~use~~ method according to claim 15 wherein the oligonucleotide is used as a primer in a polymerase chain reaction or in a RT-PCR.

Claim 17. (Withdrawn, Currently Amended) The ~~use~~ method according to claim 15 wherein the oligonucleotide is used as a probe in a hybridization reaction.

Claim 18. (Withdrawn, Currently Amended) A diagnostic kit ~~containing~~ comprising

(i) means for determining the amount of a molecular marker which is HDAC protein and

(ii) an HDAC inhibitor.

Claim 19. (Withdrawn) A diagnostic kit according to claim 18 wherein the means for determining the amount of a molecular marker is an antibody directed against a protein selected from the group consisting of HDAC-2 protein, UBC8 protein, RLIM protein and TRAIL protein.

Claim 20. (Withdrawn) A diagnostic kit according to claim 18 wherein the means for determining the amount of a molecular marker is an oligonucleotide capable of hybridizing to a polynucleotide selected from the group consisting of RLIM mRNA, RLIM cDNA, Ubc8 mRNA, Ubc8 cDNA, TRAIL mRNA, TRAIL cDNA, HDAC-2 mRNA, HDAC-2 cDNA and complements thereof.

Claim 21. (New) The method according to claim 3 wherein said disease endocrine disorder is thyroid resistance syndrome.

Claim 22. (New) A method for the characterization of an histone deacetylase (HDAC) inhibitor or a potential HDAC inhibitor, comprising

contacting a cell with a test compound and

measuring the level(s) of a molecular marker which is HDAC protein,

wherein a change in the level(s) of said molecular marker in the presence of said HDAC inhibitor compared to the level of said molecular marker in the absence of said HDAC inhibitor indicates that said test compound is an HDAC inhibitor or a potential HDAC inhibitor.

Claim 23. (New) The method according to claim 10 wherein the disease is a proliferative disease, thyroid resistance syndrome, inflammatory disorder, diabetes, thalassemia, cirrhosis, protozoal infection, autoimmune disease, rheumatoid arthritis, rheumatoid spondylitis, rheumatism, osteoarthritis, gouty arthritis, multiple sclerosis, insulin dependent diabetes mellitus and non-insulin dependent diabetes, asthma, rhinitis, uveithis, lupus erythematoidis, ulcerative colitis, Morbus Crohn, inflammatory bowel disease, chronic inflammations, or chronic diarrhea.

Claim 24. (New) The method according to claim 11 wherein the disease is a proliferative disease, thyroid resistance syndrome, inflammatory disorder, diabetes, thalassemia, cirrhosis, protozoal infection, autoimmune disease, rheumatoid arthritis, rheumatoid spondylitis, rheumatism, osteoarthritis, gouty arthritis, multiple sclerosis, insulin dependent diabetes mellitus and non-insulin dependent diabetes, asthma, rhinitis, uveithis, lupus erythematoidis, ulcerative colitis, Morbus Crohn, inflammatory bowel disease, chronic inflammations, or chronic diarrhea.

Claim 25. (New) The method according to claim 12 wherein the disease is a proliferative disease, thyroid resistance syndrome, inflammatory disorder, diabetes, thalassemia, cirrhosis, protozoal infection, autoimmune disease, rheumatoid arthritis, rheumatoid spondylitis, rheumatism, osteoarthritis, gouty arthritis, multiple sclerosis, insulin dependent diabetes mellitus and non-insulin dependent diabetes, asthma, rhinitis, uveithis, lupus erythematoidis, ulcerative colitis, Morbus Crohn, inflammatory bowel disease, chronic inflammations, or chronic diarrhea.

Claim 26. (New) The method according to claim 13 wherein the disease is a proliferative disease, thyroid resistance syndrome, inflammatory disorder, diabetes, thalassemia, cirrhosis, protozoal infection, autoimmune disease, rheumatoid arthritis, rheumatoid spondylitis, rheumatism, osteoarthritis, gouty arthritis, multiple sclerosis, insulin dependent diabetes mellitus and non-insulin dependent diabetes, asthma, rhinitis, uveithis,

lupus erythematoidis, ulcerative colitis, Morbus Crohn, inflammatory bowel disease, chronic inflammations, or chronic diarrhea.

Claim 27. (New) The method according to claim 10 wherein the disease is cancer.

Claim 28. (New) The method according to claim 1 wherein the HDAC inhibitor or potential HDAC inhibitor interferes with the catalytic activity of said HDAC.